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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,141	07/15/2002	Ricardo Blach Vizoso	EF377398785US	2737

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BAKER & BOTTS
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
ZALUKAEVA, TATYANA	
ART UNIT	**PAPER NUMBER**
1713	

DATE MAILED: 10/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/048,141	BLACH VIZOSO, RICARDO	
	Examiner	Art Unit	
	Tatyana Zalukaeva	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 have been canceled, new claims 1222 have been introduced by Applicants' amendment of 08/09/2004.

2. Independent claim 1 that replaced previous claim 1 recites equivalent mass greater than 1500, compare to previously recited greater than 900.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 13 and 14, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 12 recites the EM greater than 1500, while the dependent claims 13 and 14 recite the EM equal to 1500. These are contradictive statements.

5. Claims 12, 13, 15, 16, 17, 18, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grot.

Grot discloses a liquid composition of a perfluorinated ion exchange polymer having -- SO_3 M functional groups wherein M is H, Na, K or NR_4, in a liquid medium, said liquid composition being liquid at room temperature, process of making a composition comprising contacting a said polymer having an equivalent weight in the range of **1025 to 1500** with a mixture comprising **20 to 90%** by weight of water and 10 to 80% by weight of at least one member of the group consisting of **methanol, ethanol, n-propanol, isopropanol, n-butanol, 2-butanol, 2-methoxyethanol, 2-ethoxyethanol,**

ethylene glycol dimethyl ether, ethylene glycol diethyl ether, diethylene glyol dimethyl ether, diethylene glycol diethyl ether, dioxane , acetonitrile and mixtures thereof. (col.2, lines 20-35, col.5, lines 5-17). Preferred polymers are listed in col.3, lines 50-65, and by generic formula in col.4, lines 15-25. Out of the solvents presented as preferable in Grot, **the ethylene glycol diethyl ether, diethylene glycol dimethyl ether, diethylene glycol diethyl ether, dioxane** (also col.19, lines 20-3) are non-polar solvents.

The above rejections were made in the sense of ***In re Spada***, 911 F 2d 705, 709 15 USPQ 1655, 1658 (Fed. Cir. 1990), which settles that **when** the claimed compositions are not novel, they are not rendered patentable by recitation of properties, whether or not these properties are shown or suggested in prior art. Therefore, since the polymers of Grot are the same as claimed and are made essentially the same as those of the instant claims their crystalinity and ratio of densities in functionalized and non-functionalized forms will be inherently the same as claimed.

With regard to claims 12, and 18 the difference between Grot and the instant claim 12 is greater than 1500, as per instant claims, and 1500, as taught by Grot. However, when the claimed range and the prior art range are very similarly (i.e., less than 2 and 2) the range of the prior art establishes *prima facie* obviousness because one of ordinary skill in the art would have expected the similar ranges to have the same properties. *See in re Peterson,* 65 USPQ2d 1379, 1382, citing *titanium Metals Corp. V. Banner*, 227 USPQ 773, 779. Furthermor, the disclosure by the reference of a preferred

embodiment does not teach away from the entire disclosure of the patent, all of which must be considered in the analysis of obviousness. *See In re Burckel*, 201 USPQ 67, 70.

With regard to claims 16, 17, and 22 Grot identifies both polar and non-polar solvents as a media for dissolution of ion exchange polymer. He does not specifically introduce fluorocontaining solvents as claimed nor does he specify the ratio of a polar and non-polar solvent.

However, a person skilled in the art would have found obvious to employ fluorocarbon solvents for the reason of a chief solubility rule that "like dissolves like", with the reasonable expectation that the fluorocarbon solvents that resemble the structural units of fluorocontaining polymer would provide better solubility and therefore homogeneity to the solution and thus will result in a membrane with improved characteristics.

With regard to the ratio of a polar and non-polar solvents, lacking showing criticality of the claimed ratio, a person skilled in the art would have found obvious via routine experimentation to adjust the amounts of polar and non-polar solvents in order to achieve optimum solubility and will thus arrive at the instantly claimed subject matter, Differences in concentration, or temperature will not support the patentability of a subject matter encompassed by the prior art unless there is an evidence indicating such concentration or temperature is critical. Furthermore, wherein the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or

workable ranges by routine optimization, ***In re Aller***, 220 F.2d 454,456, 105 USPQ 233, 235 (CCPA 1955).

6. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grot in view of JP 11-130743.

Grot does not specifically disclose the copolymer containing third monomer as instantly claimed. However, grot clearly suggests the polymers largely as described above but which contain, in addition to --SO3 M functional groups, other functional groups in amount which do not interfere with formation of the desired liquid composition. Such other functional groups could be, for example, --SO2 F groups which may have remained unhydrolyzed during conversion of precursor polymer having --SO2 F groups to polymer having --SO3 M groups. Such other functional group could also be, as another example, --COOQ functional groups where Q is H, lower alkyl of 1 to 4 carbon atoms, Na, K or NR4. **In the case of terpolymers** synthesized as described above but further including a fluorinated vinyl monomer having carboxylic functionality (see col.6, lines 59-68, col.7, lines 1-7)

JP'743 discloses ion exchange copolymer for making ion-exchange membranes comprising copolymers of perfluoroalkyl vinyl ether derivatives CF2= CF(OCF2CFY)nOCF2CF2SO3Na with fluorinated olefins. JP'743 emphasizes the availability and lower cost of perfluoroalkyl vinyl ether monomers. Therefore a person skilled in the art at the time the invention was made would have found obvious motivated by suggestion of Grot to introduce the third polymer as per JP'743 in order to impart desirable properties, and will thus arrive at the instant claims.

Response to Arguments

7. Applicant's arguments filed 08/09/2004 have been fully considered but they are not persuasive. The crux of Applicants arguments is that "....independent claims 12 and 18, which substantially correspond to cancelled claims 1 and 7, recite a polymer having an equivalent weight of greater that **1500**. In contrast, Grot discloses an equivalent weight in the range of 1025 to **1500**. Moreover, Grot discloses that polymers of this range are undesirable due to fractionation of the polymer. In addition, Grot states that the process is especially useful for polymers having an equivalent weight in the lower equivalent weight range of 1050 to 1250. (Grot, col. 6, lines 11-29). Thus, Grot undoubtedly teaches away from the recitations of the present invention". This is not found persuasive. With regard to claims that teach the range starting from 1500, such as claims 13, 14, 19 and 20 the RANGE is not only obvious, but anticipated, as stated in MPEP 2131.03 a specific example in the prior art which is within the claimed range or the end point of the claimed range anticipates the range. It has long been held that the disclosure in the prior art of any value within the claimed range is an anticipation of claimed range, ***Ex parte Lee*** 31 USPQ 2d 1106, 1106. With regard to the range reciting greater than 1500, the claimed range and the prior art range are very similarly (i.e., less than 2) the range of the prior art establishes *prima facie* obviousness because one of ordinary skill in the art would have expected the similar ranges to have the same properties. *See in re Peterson,* 65 USPQ2d 1379, 1382, citing *titanium Metals Corp. V. Banner*, 227 USPQ 773, 779. Furthermore, the disclosure by the reference of a preferred embodiment does not teach away from the entire disclosure of the patent, all

of which must be considered in the analysis of obviousness. *See In re Burckel*, 201 USPQ 67, 70. Applicants reference to the specific embodiment of grot has been considered, but is not persuasive. Disclosed examples and preferred embodiments do not constitute a teaching away from a **broader disclosure or nonpreferred embodiments**. ***In re Susi***, 440 F.2d 442, 169 USPQ 423 (CCPA 1971. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, **including nonpreferred embodiments.** Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir.1998.)

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tatyana Zalukaeva
Primary Examiner
Art Unit 1713

September 24, 2004